02850

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 2833 :

Examiner _____ :

In re application of :

Robert A. Libby et al. : Hinged Electrical Connector For Insulated Cable

Serial No. 10/669,497 :

Filed September 23, 2003 :

**INFORMATION DISCLOSURE STATEMENT**

Coudersport, Pennsylvania 16915

December 30, 2003

Mail Stop Non-Fee Amendment, Commissioner for Patents

PO Box 1450, Alexandria VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. §§ 1.51, 1.56 and 1.97-1.99, Applicants identify the art set forth on PTO Form 1449A/PTO as references in connection with this case.

Werner, U.S. Patent 3,716,651, discloses a wiring box that has screw terminals for attaching cables and spring clips for attaching receptacles. The receptacles have corresponding prongs which mate with the spring clips. First the box is mounted and wired using the screw terminals. Then the receptacle is pressed into the box such that the prongs engage in the spring clips thereby making electrical contact. Although Werner eliminates wiring between the box and the receptacle, the receptacle must still be installed and aligned in the box, and the box itself must be wired in a manner similar to a conventional receptacle.

Lee, U.S. Patent 4,485,282 discloses a plug-in system for wiring wall outlets and wall switches. The system has a base plate which is wired by inserting the stripped ends of the conductors into frictionally engaging electrical contacts in a manner similar to backwiring a duplex receptacle. The base plate has two openings in the front each opening having a series of electrical contacts that are operable to engage a plug-in module. Once the base plate is wired, the proper module is selected, such as an outlet or a switch, to be inserted into the openings.

Figart et al, U.S. Patent 4,165,443 discloses a system which has a backwired baseplate and separate plug-in modules for receptacles and switches. Figart also discloses several labeled backwire terminals which simplify the wiring connections. For example two terminals are labeled "to fixture" and "power" to identify which cable should be connected to the box if a switch module is to be installed. Other terminals are marked to aid in the wiring of three way switches an four way switches. The stripped ends of the conductors are inserted into the appropriately marked terminals. The appropriate three way or four way switch modules are then plugged into the baseplate to complete the circuit. This type of system simplifies the interconnection for more sophisticated wiring situations, however there is added complexity due to having an electrical box having a baseplate and separate plug-in modules, and attention is required to comply with the labeled requirements to couple certain conductors to certain connections.

Hoag, U.S. Patent 4,336,418; Ayer, U.S. Patent 4,918,258;

and Akins, U.S. Patent 4,924,032 also disclose wiring systems in which connections are made by inserting the stripped ends of the conductors into frictionally engaging electrical contacts similar to backwiring a duplex receptacle.

Heimann, U.S. Patent 4,842,551 discloses a modular plug suitable for connection to an electrical cable. The individual conductors in an electrical cable are stripped and inserted into a first end of the plug. The opposite end of the plug has an interconnector plug which is attached to several short conductors. The interconnector plug is then engaged into a socket in the rear surface of a function module, such as a receptacle or a switch. After the interconnector plug is engaged in the function module, the function module must be aligned and installed in the electrical box.

Phillips Jr., U.S. Patent 3,641,472; Kilpatrick et al., U.S. Patent 5,178,555; and Furrow, U.S Patent 5,015,203 disclose 120 volt AC electrical boxes with a front wall having standard three-prong receptacles and a rear wall having a male terminal that connects to female plugs. In Phillips, the female plug is a standard three-prong receptacle typical of 120 volt AC outdoor extension cords. Kilpatrick et al. and Furrow disclose for the modular plug a different type, namely multi-pin connector types which are customary in connecting together computer hardware. These references all disclose female modular plugs which would at best be laboriously attachable to an end of Romex cable or like conductor-cable.

Harlow, Jr, U.S. Patent 5,064,385, discloses in Fig. 2, a modular junction box which is releasably connectable to a modular outlet box. The junction box has a socket for insertion of a modular plug on an end of insulated electrical cable. The modular plug requires the conductors of the electrical cable to be stripped of insulation before assembly. Harlow, Jr. also discloses a wire stripper in designed specifically to strip the individual conductors in preparation for attachment of the modular plug.

Bell, U.S. Patent 4,958,048 discloses a modular electrical wiring system which includes outlet boxes which include female receptacles adapted to receive male plugs provided on insulated cables (see Fig. 2).

Bourne, U.S. Patent 3,828,113 discloses an electrical receptacle or switch which is adapted to receive an electrical cable 6 which has stripped conductors 18 thereon.

Frantz, U.S. Patent 4,402,564, discloses a connector for flat flexible cables. As shown in Figure 1, an example of a mating female receptacle 12 and mating male plug 14 is disclosed.

Boundy, U.S. Patent 4,634,212, discloses a terminal block mount which permits a terminal block to be snapped onto the terminal block receiving aperture. This arrangement is best shown in Figure 1.

Hardesty, U.S. Patent 4,268,109; and Falossi et al., U.S. Patent 5,334,044 disclose couplers typically utilized for telephone cords. These references show yet another type of

female couplers and male plugs which can be utilized to make electrical connections.

Libby, U.S. Patent 5,785,551 teaches that it is desirable to reduce and simplify the number of steps required in wiring an electrical power distribution system and to make electrical connections without the need to strip the ends of the individual conductors in an electrical cable. Figures 13a through 13d show and describe a device used to make an electrical connection to a transversely cut unstripped end of insulated electrical cable having at least two individually insulated conductors which are encased in an outer sheath. With that system, a special pair of pliers is utilized to drive generally parallel spaced apart individual blade members downwardly through the outer sleeve of the cable, through the conductor insulation and into an electrical connection, respectively, with each of the wire conductors.

Libby, U.S. Patent 5,975,938 teaches the provision of an electrical connector for insulated cable including a body, a pair of arm members, a pair of electrically conducting blade members, an electrical output means and an electrical pathway between the blades and the output means. When the arm members are moved from an open position to a closed position with an unstripped end of insulated electrical cable present in the cavity, the blade members cut through the outer sheath of the cable and also cut through the insulation of the individually insulated conductors and the blades move to a location where said blade members are in

electrically contact with said conductors. While generally effective, the provision of separate arm members adds unnecessary complexity to the connector and the design shown may not always make a reliable connection to an unstripped ground wire in the cable.

Greenbaum, U.S. Patent 2,717,365 discloses a device which is effective for quickly attaching an outlet receptacle and a product manufactured in accordance with the teachings of such patent is still being sold as catalog number BP2603B and part number 2603H of Eagle Electric Mfg. Co., Inc. While useful for a limited purpose, such device has severe limitations. First, it is designed solely for use on an electric cord having two insulated wires (in the form of a standard lamp cord). Even within such limited range of use, with such cords may not be utilized on very small width cords such as type "TPT" (used on electric shavers) or type "XT" (used on tiny Christmas lights). Further, such device is not designed for use and may overheat if used in connection with broilers, toasters, irons or other devices rated over 1250 watts (10 amps and 125 volts).

None of the references cited herein teach or suggest Applicant's claimed invention.

It is respectfully submitted that the present application is in a proper form for allowance. Such action is respectfully requested at an early date.

Applicant or his patent attorney may have been exposed to or considered art relating to the general class of the subject

invention. However, if in fact such exposure or consideration has occurred, to the best of their recollection and judgment, none of such art is prior art which is believed to be material to this application.

Respectfully submitted,

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Glassmire & Shaffer Law Offices P.C.

Signature

Dec 30, 2003

Date of Signature and Mailing

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Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE


Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

*(Use as many sheets as necessary)*

Sheet 1 of 2

| Complete if Known | |
|---|---|
| Application Number | 10/669,497 |
| Filing Date | Sept. 23, 2003 |
| First Named Inventor | Robert A. Libby |
| Art Unit | 2833 |
| Examiner Name | |
| Attorney Docket Number | 02850 |

## U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No.[1] | Document Number Number-Kind Code[2] (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
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| | | US- 4,485,282 | 11-27-1984 | Lee | |
| | | US- 4,145,443 | 08-21-1979 | Figart et al. | |
| | | US- 4,336,418 | 06-22-1982 | Hsag | |
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Sheet 2 of 2

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| First Named Inventor | Robert A. Libby |
| Art Unit | 2833 |
| Examiner Name | |
| Attorney Docket Number | 02850 |

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